



What is claimed:

- 1.(canceled) A mechanical lift system that is primarily designed to open and close an existing vehicle canopy structure by means of hinges and a power lift arm.
- 2.(canceled) The invention as claimed in Claim 1, includes the securing of one side of any existing vehicle canopy to the upper side of the vehicle bed by means of a continuous hinge or a series of two or more single hinges so the said vehicle canopy may move from a closed horizontal position to an upright open vertical position or vise versa or stop at any position between open and closed while at the same time maintaining a secure stability of the said canopy at all times.
- 3.(canceled) The invention as claimed in Claim 1 is comprised partly, of a lift system which has a base plate and upright arm which is secured to the inside bed of a vehicle usually but not exclusively to the upper part of the wheel well. This positioning is primarily done to give the lift arm a balance of the canopy or cover during lift and close operations.
- 4.(canceled) The invention as claimed in Claim 1 is an continuation of Claim 3, and is comprised partly, of a lift arm which is pivotally connected to the fixed upright arm and follows the inside contour of the vehicle canopy to the ceiling of the said canopy, thence in a horizontal direction close to the canopy ceiling of the opposite side of the canopy.
- 5.(canceled) The invention as claimed in Claim 1, is a continuation of Claim 4, and is comprised partly, of a down arm, which is pivotally attached to the lift arm at the ceiling of the said canopy and follows the downward contour of the said canopy to its base, where it is pivotally attached to an inside base plate which is secured to the inside base of the vehicle canopy. This is the lift arms contact point for raising and lowering the canopy.
- 6.(canceled) The invention as claimed in Claim 1, is comprised partly of a 12 volt direct current linear actuator, which is powered by the said vehicle power system, in which its base is pivotally connected to the top of the base plate and its top is pivotally connected to the lift arm.
- 7.(canceled) The invention as claimed in Claim 1, is comprised wholly in accordance with Claims 2 to 6.
- 8.(canceled) The invention as claimed in Claims 1 and 2, wherein said hinges are of sufficient size and shape and made with sufficient strength such as steel, stainless steel, or other alloys, to maintain the safety and efficiency of the canopy during lifting, closing, or any position in between.

- 9.(Canceled) The invention as claimed in Claims 3 and 6, is made of plate and tubular steel of sufficient size as not to compromise the integrity or safety of the lift system. Other alloys such as aluminum or stainless steel may be used as long as they conform to all safety and integrity standards.
- 10.(canceled) The invention as claimed in Claim 6, has a 12 volt direct current linear actuator connected to the battery via heavy gauge wire with an inline 20 ampere fuse near the battery and a reverse polarity intermittent rocker toggle switch located at any convenient position between the linear actuator and vehicle battery. A heavy gauge ground wire is connected from the vehicle metal to the rocker switch and is connected to the linear actuator. While activated, the linear actuator has equal power to the lift arm in either upward or downward directions. Other power systems considered were hydraulic, electric hydraulic, and pneumatic.
- 11.(canceled) The invention as claimed in Claim 1, may be installed on either side of the truck bed so the canopy may lift from any direction the installer desires. The lift system works equally from the left or right installation positions.
- 12.(canceled) A mechanical lift system that is designed to open and close a vehicle canopy from its side position by means of hinges and a power lift arm.
- 13.(canceled) The invention, as claimed in Claim 12, is comprised of securing of one side of a vehicle canopy to the upper side of the vehicle bed by means of a continuous hinge or a series of two or more hinges allowing the canopy to open 90 degrees and close to its original position.
- 14.(canceled) The invention as claimed in Claim 12, is a mechanical lift system comprising:  
a base plate which is secured to the inside bed of a vehicle;  
an upright arm connected to the base plate and secured to the inside portion of the upper rim of the vehicle bed;  
and a lift arm which is pivotally connected to the upright arm, and follows with other pivotal connections the inside contour of the vehicle canopy to the canopies opposite inside base.
- 15.(canceled) the invention as claimed in Claim 12, has an enclosed heavy duty actuator power unit comprised of:  
a ball screw actuator piston which connects to the lift arm via an in line-clevis with its base housing connected to the base plate with an in-line base clevis;

a 12 volt direct current motor, driving a gear reduction system attached to the encased screw jack piston which lifts and lowers the canopy on demand via a reverse polarity toggle switch.

16.(canceled) The invention as claimed in Claim 12, can have a hydraulic lift arm comprised of:

a hydraulic cylinder piston that connects to the lift arm via an in-line clevis with the cylinders base housing connected to the base plate with an in-line base clevis;

a hydraulic or electric hydraulic pump, powered by the vehicle with control valves and lines connected to the cylinder.

17.(canceled) A mechanical lift system that is designed to open and close a truck topper from its side position by means of hinges and a power lift arm.

18.(canceled) The invention, as claimed in Claim 12, is comprised of securing one side of a truck topper to the upper side of the truck bed by means of a continuous hinge or a series of two or more hinges allowing the topper to open 90 degrees and close to its original position.

19.(canceled) The invention as claimed in Claim 12, is a mechanical lift system comprising:

a base plate which is secured to the inside bed of a vehicle;

an upright arm connected to the base plate and secured to the inside portion of the upper rim of the truck bed;

and a lift arm which is pivotally connected to the upright arm, and follows with other pivotal connections the inside contour of the truck topper to the toppers opposite inside base.

20.(canceled) the invention as claimed in Claim 12, has an enclosed heavy duty actuator power unit comprised of:

a ball screw actuator piston which connects to the lift arm via an in-line clevis with its base housing connected to the base plate with an in-line base clevis;

a 12 volt direct current motor, driving a gear reduction system attached to the encased screw jack piston which lifts and lowers the topper on demand via a reverse polarity toggle switch.

21.(canceled) The invention as claimed in Claim 12, can alternately have a hydraulic lift arm comprised of:

a hydraulic cylinder piston that connects to the lift arm via an in-line clevis with the cylinders base housing connected to the base plate with an in-line base clevis;

a hydraulic or electric hydraulic pump, powered by the truck with control valves and lines connected to the hydraulic cylinder

22. (New) A mechanical lift system that is designed to open and close a truck topper from its side position by means of hinges and a power lift arm.

23. (New) The invention, as claimed in Claim 22, is comprised of securing one side of a truck topper to the upper side of the truck bed by means of a continuous hinge or a series of two or more hinges allowing the topper to open 90 degrees and close to its original position.

24. (New) The invention as claimed in Claim 22, is a mechanical lift system comprising:

a base plate which is secured to the inside bed of a vehicle;

an upright arm connected to the base plate and secured to the inside portion of the upper rim of the truck bed;

and a lift arm which is pivotally connected to the upright arm, and follows with other pivotal connections the inside contour of the truck topper to the toppers opposite inside base.

25. (New) the invention as claimed in Claim 22, has an enclosed heavy duty actuator power unit comprised of:

a ball screw actuator piston which connects to the lift arm via an in-line clevis with its base housing connected to the base plate with an in-line base clevis;

a 12 volt direct current motor, driving a gear reduction system attached to the encased screw jack piston which lifts and lowers the topper on demand via a reverse polarity toggle switch.

26. (New) The invention as claimed in Claim 22, can alternately have a hydraulic lift arm comprised of:

a hydraulic cylinder piston that connects to the lift arm via an in-line clevis with the cylinders base housing connected to the base plate with an in-line base clevis;

a hydraulic or electric hydraulic pump, powered by the truck with control valves and lines connected to the hydraulic cylinder.